

IN THE CLAIMS

1. (currently amended) A vacuum pumping arrangement comprising a drive shaft, a motor for driving ~~said~~the drive shaft, a molecular pumping mechanism and a regenerative pumping mechanism, wherein ~~said~~the drive shaft is arranged for simultaneously driving ~~said~~the molecular pumping mechanism and ~~said~~the regenerative pumping mechanism and ~~said~~the drive shaft is supported by a lubricant free bearing associated with ~~said~~the molecular pumping mechanism.
2. (currently amended) ~~An~~The arrangement as claimed in claim 1, wherein ~~said~~the lubricant free bearing is a magnetic bearing.
3. (currently amended) ~~An~~The arrangement as claimed in claim 1 ~~or 2~~, wherein ~~said~~the lubricant free bearing and the molecular pumping mechanism are substantially axially aligned.
4. (currently amended) ~~An~~The arrangement as claimed in ~~any preceding~~ claim 1, wherein ~~said~~the drive shaft is additionally supported by a lubricated bearing associated with ~~said~~the regenerative pumping mechanism.
5. (currently amended) The ~~An~~ arrangement as claimed in claim 4, wherein ~~said~~the lubricated bearing is a rolling bearing.
6. (currently amended) The ~~An~~ arrangement as claimed in claim ~~4 or claim 5~~, wherein ~~said~~the lubricated bearing and the regenerative pumping mechanism are substantially axially aligned.
7. (currently amended) The ~~An~~ arrangement as claimed in ~~any of~~ claims ~~4 to 6~~, wherein ~~said~~the regenerative pumping mechanism comprises a stator comprising a plurality of circumferential pumping channels disposed about a longitudinal axis of the drive shaft and a rotor comprising a plurality of arrays of rotor blades extending axially into the respective ~~said~~ circumferential pumping channels.

8. (currently amended) ~~The An~~ arrangement as claimed in claim 7, wherein ~~said~~the rotor of ~~said~~the regenerative pumping mechanism is connected to ~~said~~the drive shaft so as to be sufficiently close to ~~said~~the lubricated bearing so that radial movement of ~~said~~the drive shaft at ~~said~~the lubricant free bearing translates substantially to axial movement of ~~said~~the rotor blades relative to the respective ~~said~~ circumferential pumping channels.

9. (currently amended) ~~The An~~ arrangement as claimed in claim 7 ~~or~~ 8, wherein ~~said~~the lubricated bearing and ~~said~~the circumferential pumping channels are substantially axially aligned.

10. (currently amended) ~~The An~~ arrangement as claimed in ~~any one of~~ claims 7 ~~to~~ 9, wherein ~~said~~the lubricated bearing is housed in the stator of the regenerative pumping mechanism.

11. (currently amended) ~~The An~~ arrangement as claimed in ~~any one of the preceding~~ claims 1, wherein ~~said~~the molecular pumping mechanism comprises a molecular drag pumping ~~means~~mechanism.

12. (currently amended) ~~The An~~ arrangement as claimed in ~~any one of the preceding~~ claims 1, wherein ~~said~~the molecular pumping mechanism comprises turbomolecular pumping means.

13. (currently amended) ~~The An~~ arrangement as claimed in ~~any one of the preceding~~ claims 1, comprising a housing which houses the molecular pumping mechanism, the regenerative pumping mechanism, the drive shaft and the motor.

14. (currently amended) A vacuum pumping arrangement comprising a drive shaft, a motor for driving ~~said~~the drive shaft, and a regenerative pumping mechanism, ~~said~~the drive shaft being supported towards one end thereof by a lubricant free bearing and towards the other end thereof by a lubricated bearing, ~~said~~the regenerative pumping mechanism comprising a stator comprising a plurality of circumferential pumping channels disposed about a longitudinal axis of the drive shaft and a rotor comprising a plurality of arrays of rotor blades extending axially into the respective ~~said~~ circumferential pumping channels,

~~said~~the rotor being connected to ~~said~~the drive shaft so as to be sufficiently close to ~~said~~the lubricated bearing so that radial movement of ~~said~~the drive shaft at ~~said~~the lubricant free bearing translates substantially to axial movement of ~~said~~the rotor blades relative to the respective ~~said~~ circumferential pumping channels.

15. (new) The arrangement as claimed in claim 2, wherein the molecular pumping mechanism comprises a molecular drag pumping mechanism.

16. (new) The arrangement as claimed in claim 15, wherein the molecular pumping mechanism comprises turbomolecular pumping means.

17. (new) The arrangement as claimed in claim 16, comprising a housing which houses the molecular pumping mechanism, the regenerative pumping mechanism, the drive shaft and the motor.